

The Claims

What is claimed is:

1. A shoulder orthosis device for effecting relative movement between a lower arm portion and an upper arm portion of an arm of a patient, comprising:
 - a lower arm section configured for receiving the lower arm portion, the lower arm section maintaining the lower arm portion substantially orthogonal to a central longitudinal axis of the upper arm portion; and
 - a drive member operably connected to the lower arm section to rotate the lower arm portion about the central longitudinal axis of the upper arm portion.
2. The shoulder orthosis device according to claim 1, wherein the lower arm section comprises a lower cuff configured to receive and grip the lower arm portion.
3. The shoulder orthosis device according to claim 2, wherein the lower arm section further comprises a hand cuff spaced apart from the lower cuff, the hand cuff being configured to receive and grip a hand portion of the lower arm portion.
4. The shoulder orthosis device according to claim 3, wherein the lower arm section further comprises an outer and inner channel members, wherein the lower cuff is attached to the outer channel member and the hand cuff is attached to the inner channel member.
5. The shoulder orthosis device according to claim 4, wherein the outer and inner channel members are slidably connected.
6. The shoulder orthosis device according to claim 1, wherein the drive member is manually operated by the patient.

7. The shoulder orthosis device according to claim 6, wherein the drive member rotates the lower arm section from a first position to a second position.
8. The shoulder orthosis device according to claim 6, wherein the drive member rotates the lower arm section from the second position to a third position.
9. The shoulder orthosis device according to claim 1, further comprising an upper arm section rotatably connected to the lower arm section, such that the lower arm section is substantially orthogonal to the upper arm section
10. The shoulder orthosis device according to claim 9, wherein the upper arm section comprises a lower channel member slidably affixed to an upper channel member.
11. The shoulder orthosis device according to claim 10, wherein the upper arm section further comprises an upper cuff attached to the upper channel member, the upper cuff being configured to receive and grip the upper arm portion.
12. The shoulder orthosis device according to claim 9, wherein the upper arm section is adjustable to align the upper arm portion with a glenoid cavity of a shoulder joint.
13. The shoulder orthosis device according to claim 9, further comprising a base section, wherein the upper arm section is pivotally connected to the base section.
14. The shoulder orthosis device according to claim 13, further comprising a secondary drive member interposed between the base section and the upper arm section, the secondary drive member adjusting an angle between the base section and the upper arm section to align the upper arm portion with a glenoid cavity of a shoulder joint.

15. A shoulder orthosis device for effecting relative movement between a lower arm portion and an upper arm portion of an arm of a patient, comprising:

an upper arm section defining an upper arm section longitudinal axis;

a lower arm section rotatably connected to the upper arm section, such that a lower arm section longitudinal axis is substantially orthogonal to the upper arm section longitudinal axis, the lower arm section being configured to receive, grip, and maintain the lower arm portion substantially orthogonal to a central longitudinal axis of the upper arm portion; and

a manually operated drive member connected to the lower arm section to rotate the lower arm section about the upper arm section such that the lower arm portion is rotated about the central longitudinal axis of the upper arm portion.

16. The shoulder orthosis device according to claim 15, wherein the length of the upper arm section is adjustable.

17. The shoulder orthosis device according to claim 15, wherein the upper arm section further comprises an upper cuff configured to receive and grip the upper arm portion.

18. The shoulder orthosis device according to claim 15, wherein the position of the upper arm section is adjustable to align the upper arm portion with a glenoid cavity of a shoulder joint.

19. The shoulder orthosis device according to claim 15, wherein the length of the lower arm section is adjustable.

20. The shoulder orthosis device according to claim 15, wherein the lower arm section further comprises a hand cuff longitudinally disposed on the lower arm section spaced apart from the lower cuff.

21. The shoulder orthosis device according to claim 15, further comprising a base section, wherein the upper arm section is pivotally connected to the base section.

22. The shoulder orthosis device according to claim 21, further comprising a secondary drive member interposed between the base section and the upper arm section, the secondary drive member adjusting an angle between the base section and the upper arm section to align the upper arm portion with a glenoid cavity of a shoulder joint.

23. A shoulder orthosis device for effecting relative movement between a lower arm portion and an upper arm portion of an arm of a patient, comprising:

- a base section;

- an upper arm section pivotally attached to the base section, the upper arm section defining an upper arm section longitudinal axis;

- a lower arm section rotatably connected to the upper arm section, such that a lower arm section longitudinal axis is substantially orthogonal to the upper arm section longitudinal axis, the lower arm section including a lower cuff and a hand cuff configured to receive, grip, and maintain the lower arm portion substantially orthogonal to a central longitudinal axis of the upper arm portion; and

- a manually operated drive member connected to the lower arm section to rotate the lower arm section about the upper arm section such that the lower arm portion is rotated about the central longitudinal axis of the upper arm portion.